What is claimed is:

1. A method for separation of chemical substances or particles or a combination thereof, comprising the step of: applying an electric field to at least one phase of a system with two or more phases, in parallel with a phase boundary.

2. The method according to claim 1, further including the step of applying an additional electric field perpendicular to the phase boundary.

3. The method according to claim 1, wherein a microfluid system is used with a plurality of adjoining sheets of two or more different phases and the sheets run parallel to each other.

4. A method for separation of chemical substances and/or particles, comprising the step of: applying an electric field to a microfluid system consisting of a plurality of adjoining sheets of two or more different phases, perpendicular to the phase boundaries.

5. The method according to claim 3, wherein different concentrations of a substance having a given physicochemical affinity for the substances or particles or a combination thereof being separated are adjusted in the phases.

6. The method according to claim 1, wherein the individual phases are parallel arranged liquid or gel sheets of a thickness in the submillimeter range or smaller.

7. A device for separation of chemical substances or particles or a combination thereof, comprising: a microfluid chamber and at least one electrode pair arranged on it, wherein the microfluid chamber is filled with at least two nonmiscible fluids or gels in the form of at least one sheet, and at least two sheets have a common phase boundary.

8. The device according to claim 7, wherein at least one additional electrode pair is arranged on the microfluid chamber such that an electric field is generated perpendicular to the electric field of the first electrode pair.

9. The device according to claim 7 with recesses, which form intake channels for the fluids or gels, as well as the microfluid chamber, wherein the intake channels emerge into the microfluid chamber.

10. Use of the device according to claim 7 for the separation of biomolecules or bioparticles or a combination thereof.

11. The method according to claim 2, wherein a microfluid system is used with a plurality of adjoining sheets of two or more different phases and the sheets run parallel to each other.

12. The method according to claim 4, wherein different concentrations of a substance having a given physicochemical affinity for the substances or particles or a combination thereof being separated are adjusted in the phases.

13. The method according to claim 2, wherein the individual phases are parallel arranged liquid or gel sheets of a thickness in the submillimeter range or smaller.

14. The method according to claim 11, wherein the individual phases are parallel arranged liquid or gel sheets of a thickness in the submillimeter range or smaller.

15. The method according to claim 5, wherein the individual phases are parallel arranged liquid or gel sheets of a thickness in the submillimeter range or smaller.

16. The device according to claim 8, with recesses, which form intake channels for the fluids or gels, as well as the microfluid chamber, wherein the intake channels emerge into the microfluid chamber.

17. The device according to claim 8, for the separation of biomolecules or bioparticles or a combination thereof.

18. The device according to claim 16, for the separation of biomolecules or bioparticles or a combination thereof.